

# Fugitive Dust Control Plan

Old American Zinc Plant Superfund Site  
Surrounding Properties Remedial Design  
St. Clair County, Illinois

**IN SUPPORT OF**

**CONTRACT W912P9-18-D-0014**

**DELIVERY ORDER NUMBER W912P919F0060**

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**PREPARED FOR:**



**US Army Corps  
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St. Louis District

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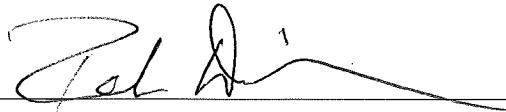
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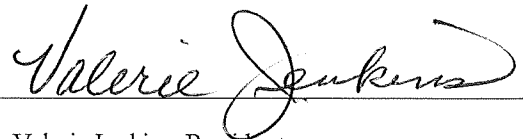
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## Fugitive Dust Control Plan

The intent of the Fugitive Dust Control Plan (FDCP) is to identify the measures that will be taken to reduce the potential for particulate emissions associated with remediation activities from the OAZ Superfund Site, located in the Village of Fairmont City in St. Clair County, Illinois. This FDCP will be implemented in conjunction with the Air Monitoring Plan which describes the air monitoring activities to be performed during the remediation work.

This plan will identify the steps that will be taken to reduce the potential for particulate emissions during remediation activities. The FDCP includes activity-specific (i.e. transportation and loadout of material) dust control criteria and dust suppression procedures. Best management practices (BMPs) will be implemented throughout the project. BMPs include wetting active remediation areas, minimizing or ceasing activities during periods of high wind, sweeping or wetting paved areas, wetting unpaved areas, application of dust suppressant materials and covering stockpiles. This FDCP provides specific information about the generation and control of dust emissions during the excavation of soil material, stockpiling of these materials and other activities associated with the remediation. The following sections detail potential dust sources and dust control methods.

The objectives of the FDCP are as follows:

- Provide an early warning system to alert the Remediation Contractor when concentrations of respirable dust in ambient air are approaching Action Levels due to removal activities.
- Provide a plan for preemptively limiting and controlling respirable dust during remediation activities.
- Determine whether construction controls are effective in reducing ambient air concentrations of specific compounds below Action Levels and make the appropriate and necessary adjustments.
- Develop a permanent record that includes a database of the total quantity of loaded or unloaded material in cubic yards or tons, total application of water in gallons, documentation of street cleaning and sweeping (after), instances of work-stopping weather events, results of the real-time air monitoring and instances of dust approaching or exceeding the Action Levels.
- The Contractor will comply with the fugitive dust control program and meet the applicable requirements of Air Pollution Control Rules, Illinois Administrative Code Title 35, Subtitle B, Chapter 1, Part 212 Visible and Particulate Matter Emissions, Subpart K, Parts 212.

ARDL has the authority to implement additional dust control provisions and stop work provisions based on the results of the air monitoring described in the Air Monitoring Plan. ARDL personnel will also maintain and revise the FDCP as needed to reduce the potential for dust emissions during remediation activities.

### Site Description and Project Overview

The OAZ Superfund Site is located in the Village of Fairmont City in St. Clair County, Illinois. The site includes a 132-acre facility area (FA) and surrounding properties where elevated metal concentrations associated with the facility operation were found. Based on previous sampling results, the nature of the dusts for contaminants of concern (COCs), include arsenic, cadmium, lead, zinc and inorganic constituents, such as lead-containing respirable particulate matter (PM10). The FA is bordered by commercial and industrial properties, including Garcia Trucking to the west, CSX Intermodal railroad yard to the south, and General Chemicals to the east.

Initial activities at the work areas will include the installation of temporary fencing around the excavation area. Excavation of the impacted soil will be loaded into trucks and disposed at the FA. While excavation activities are taking place, ARDL personnel or subcontractors will be conducting air monitoring, and fugitive dust control and associated management. In addition, ARDL personnel will coordinate traffic and road control at the work areas. Following excavation activities, clean backfill and topsoil will be installed and seeded with grass.

### Fugitive Dust Controls

Control of dust from excavation and transportation will be a high priority during remediation activities. The primary mechanism for dust control will be the use of water trucks with a spray bar and hose(s). Only potable water will be used for dust control purposes in the residential area of the OAZ site. Potable water, water collected in open residential excavations, or water collected from equipment decontamination may be used at the staging pile on the FA. The water collected from open excavations and equipment decontamination may not be used on any roadways or residential areas. If used for dust suppression at the FA, the water from open excavations or equipment decontamination will be pumped into barrels or a water truck to be collected and transported. This collected water shall not be stored for any extended period of time to limit the growth of unwanted bacteria. Containers or barrels used for storage shall be emptied, as required, when not in use. For more information on the collection and decontamination of water please see the Environmental Protection Plan (EPP). Proactive controls will be instituted to reduce the amount of dust generation during site activities, including enforcement of low speed limits for vehicular traffic, decontamination of trucks leaving the remediation work areas and height limits for stockpiles, if applicable.

A dust control training program for all site personnel will be conducted every day. This training program will review the potential sources of dust, visible emissions response, individual responsibilities, and other actions for controlling dust as described in this plan. The training will emphasize the importance of dust control to the overall success of the remedial activities and familiarize site personnel with the air monitoring requirements and appropriate dust control procedures that must be followed for this plan to minimize dust generation.

#### *Anticipated Dust Generation Activities and Proposed Controls*

Remediation activities will have the potential to generate emissions in the form of fugitive dust. Dust control methods will vary based on the activities occurring at the site. Activities to be conducted during the remediation activities, which have the potential to generate dust, and the respective dust control measures, are described in the table below.

| Activity                             | Dust Control Measures  |
|--------------------------------------|--|
| Soil Excavation / Loading Activities | <ul style="list-style-type: none"> <li>• Water spray/mist as required</li> <li>• Adjust excavation activities</li> <li>• Suspend work under unfavorable weather conditions (i.e. sustained wind speed greater than 20 miles per hour)</li> </ul> |
| Truck Traffic                        | <ul style="list-style-type: none"> <li>• Wet down unpaved haul roads.</li> <li>• Keep paved roads clean or wet down if damaged and cracked and cannot be kept clean</li> <li>• Truck tarping</li> </ul>  |
| Stockpiling                          | <ul style="list-style-type: none"> <li>• Water spray/mist</li> <li>• Use of airborne dust wet suppression system as required</li> </ul>  |
| Backfill Replacement                 | <ul style="list-style-type: none"> <li>• Water spray/mist as required</li> </ul>   |

### *Excavation Watering*

The remediation personnel shall conduct operations and maintain the site as to minimize the creation and dispersion of respirable dust. Clean water shall be applied to the residential sites as necessary to prevent dust during excavation, loading/unloading and backfilling activities. Excavation areas will be kept damp, as necessary, without creating ponding or mists that travel beyond the site boundaries. The watering operations shall be sufficient to control fugitive dust.

Water shall be applied in a manner to prevent runoff. As a contingency measure, ARDL personnel or subcontractors will have erosion and sedimentation controls, such as silt fencing, sediment logs, or manhole silt screens, installed as necessary to manage runoff.

### *Street Maintenance (Paved Roads)*

Paved street cleaning will be performed daily from the time earthwork is initiated until topsoil placement at properties is complete. Final street cleaning will be conducted prior to the removal of the erosion and sediment control measures, such as inlet protection, if applicable. Street cleaning equipment shall capture debris after sweeping, using either mechanical methods with water for dust suppression, or vacuum, to minimize fugitive dust emissions. Debris from street cleaning will be managed with excavated soil for transportation and placement in the consolidation area or soil staging pile. All trucks are to take the most efficient and direct route to the disposal facility as possible.

In addition to street cleaning, all sidewalks, driveways or similar surfaces adjacent to the excavation areas will be covered daily with 6 mil polyethylene (or equivalent) as possible from the start of excavation through the completion of backfill. Manual cleaning will be performed daily if spillage occurs onto these surfaces.

### *Street Maintenance (Unpaved Roads)*

Unpaved street maintenance will be performed daily using water trucks with a spray bar and hose(s) when the earthwork is initiated until topsoil placement at properties is complete. Unpaved roads will be kept damp, as necessary, without creating ponding or mists that travel beyond the site boundaries. At a minimum, unpaved streets will be watered once a day and shall be wetted again if visible emissions are noticed. Water shall be applied in a manner to prevent runoff. As a contingency measure, ARDL personnel or subcontractors will have erosion and sedimentation controls, such as silt fencing, sediment logs, or manhole silt screens, installed as necessary to manage runoff.

### *Tarping*

All trucks being utilized for transport and disposal of excavated material at the site are required to be fitted with solid, sliding or slot-top covers, with no gaps when fully deployed. Trucks shall be covered immediately after loading and are to remain covered throughout the transportation and disposal of excavated material. The cover must not contact the excavated material and must be installed in such a way to prevent wind from entering over the leading edge of the trailer rim.

Bulk material piles will not be created other than while gathering material to load into trucks (e.g., pulling soil into a pile for the excavator to load into trucks). Excavated materials will not be allowed to be stockpiled except in excavated soil staging pile at the FA with proper controls in place. Excavated soil may be temporarily staged within the extent of the excavation prior to loading the soil for transport to the FA. Temporary staging piles will be removed before the end of excavation activities each day.

### *Transfer Point and Truck Procedures*

Transfer points refer to any time material is loaded or unloaded during removal activities. For the purposes of this project, the primary transfer points of concern will be the transfer of soil material from the excavator to a waiting truck. The secondary transfer points of concern will be the unloading of the clean soil for use in backfilling the excavated areas. At all transfer points, the following guidelines will be maintained:

- During loading of impacted soil, the material must be moist during the transfer and the transfer shall be into an overhead truck trailer only. The material drop into the trailer must not exceed 4 feet.
- All trucks entering and leaving the site will adhere to the posted speed limit and shall travel no more than 10 miles per hour (mph) onsite.
- All trucks shall adhere to the tarping policy established in 4.1.5 of the Final Basis of Design Report
- All trucks leaving unpaved areas to paved areas of the public ROW (i.e., sidewalk or street), whether full or empty, will be visually inspected for loose material. Stabilized construction exits (e.g., 3 to 6-inch cobblestone or rip rap placed on top of a demarcation fabric) will be used to assist with cleaning of truck tires as the vehicles leave unpaved areas. Any loose material is to be removed and placed into the truck trailer.
- All loading of impacted soil must be completed on pavement where possible.

### *Demarcation Fabric Barrier*

Pending the XRF screening results at the maximum design excavation depth, additional excavation may be completed to a maximum depth of 30 inches. If the results of the XRF screening indicate that impacted soil remains at 30 inches, demarcation fabric will be placed at the base of the excavation over the entire yard area to indicate the potential for exceedance(s) and minimize any respirable dust generation during backfilling activities.

## Dust Monitoring Activities

ARDL personnel will be responsible for the collection, evaluation, presentation, and data management of the real-time air monitoring results. Responsibilities include maintenance of sampling equipment and developing on-site recommendations for visible emission response actions. The plan for a full-scale air monitoring program is detailed in the Air Monitoring Plan and generally consists of the following:

### *Personal Air Sampling*

A personal air sample for arsenic, cadmium, lead, and zinc will be collected on a worker with the greatest potential for exposures during the excavation activities, for each property, during the first week of excavation activities. An expedited laboratory turnaround time for results shall be confirmed and used (anticipate a 2-3 day laboratory turnaround).

### *Perimeter Air Sampling*

Daily perimeter air samples for arsenic, cadmium, lead, and zinc will be collected at two locations per property, typically at the residence and downwind. At the FA near the borrow material staging pile and excavated material staging pile, two perimeter air samples will also be collected daily while earthwork is being performed or when the staging pile is being constructed. The sampling locations at the excavated soil staging pile will be selected

to evaluate both ambient (i.e., upwind) and downwind levels.

#### *Real-time Perimeter Dust Monitoring*

Real-time dust monitoring will be performed using MIE DataRAM 4 (DR-4000) dust monitors, or equivalent (i.e. TSI Dustrak 8530, etc.), throughout the duration of intrusive activities beginning with excavation and continuing through backfill and topsoil placement at each property and the FA excavated soil staging pile while earthwork is being performed or when the staging pile is being constructed. All dust monitors shall be protected using an appropriate environmental enclosure (i.e. TSI Environmental Enclosure 8535 or equivalent).

#### *Visible Dust Emissions*

Site personnel shall be trained on what visible dust emissions are and how to react if there are visible dust emissions on site. If noticeably visible dust emissions are generated crossing the property fence line or potentially impacting the existing residence on the property, personnel shall report them directly to their supervisor for appropriate corrective action. Corrective actions may include use of more water, re-adjustments to the work procedures, or a suspension in activity until appropriate measures can be determined. Air sampling devices should also be moved to these areas for further evaluation and determination of appropriate actions.

#### *Action Level Exceedance*

If Action Levels have been exceeded or remediation activities have been suspended for any reason, the ARDL Site Coordinator shall be notified immediately.

### Reporting and Record Keeping

Work-stopping events, weather stopping events, results of the real-time dust monitoring, and any instances of levels approaching or exceeding the Action Levels will be documented and submitted accordingly.

#### *Recordkeeping*

Documentation of the following shall be retained as part of the project file, which includes the following:

- Daily record of material, in tons or cubic yards that have been removed or delivered, will be maintained. These records will include the number of trucks leaving the facility, including empty trucks, and all Bill of Ladings.
- Daily record of water application will be maintained, including number of times applied and a daily total of water used in gallons. Records shall also include the manner of application, such as spraying or misting. Any incidents of pooling or runoff will be noted as well, including the areas of the Site affected by the incident.
- A record of street sweeping will be maintained, including the time of day that street cleaning was performed, and will be submitted monthly.

#### *Submissions*

File results will be submitted in Microsoft Excel 2013 readable format. File names denoting address being sampled, sample meter location, and sample date will be submitted daily.

**Fugitive Dust Control Plan**

Old American Zinc Plant Superfund Site  
Surrounding Properties Remedial Action  
(WA No. 224-RDRD-B5A1 / Contract No. EPO-S4-06-01)  
Fairmont City, St. Clair County, Illinois  
June 14, 2019

Analytical results from personal sampling pumps will be reported in Adobe Acrobat 9.0 or compatible software. The reports will denote sample collection intervals and addresses where personal samples were collected. The personal analytical results will be submitted monthly.